

## General

### Title

Post-acute care functional status: mean change score in applied cognitive function of patients in a post-acute care setting as assessed using the "Applied Cognition" domain of the Activity Measure for Post-acute Care (AM-PAC).

### Source(s)

Jette A, Haley SM, Coster WJ, Ni P. Instruction manual. Activity Measures for Post-acute Care (AM-PAC): basic mobility, daily activity, applied cognition functional domains. Boston (MA): Boston University, Health and Disability Research Institute; 2008 Feb 22. 45 p.

Jette A, Haley SM, Coster WJ, Ni P. Instruction manual. AM-PAC computerized adaptive testing (AM-PAC CAT,®) personal computer version: basic mobility, daily activity and applied cognition functional domains. Boston (MA): Boston University, Health and Disability Research Institute; 2007 May 1. 26 p.

## Measure Domain

### Primary Measure Domain

#### Outcome

The validity of measures depends on how they are built. By examining the key building blocks of a measure, you can assess its validity for your purpose. For more information, visit the [Measure Validity](#) page.

### Secondary Measure Domain

Does not apply to this measure

## Brief Abstract

### Description

This measure is used to assess the mean change score in applied cognitive function of patients in a post-acute care setting as assessed using the "Applied Cognition" domain of the Activity Measure for Post-acute Care (AM-PAC).

## Rationale

The effectiveness of rehabilitation services is best understood through repeated measurements of functional outcomes with a consistent, valid, and reliable assessment system. Within post-acute care, there is a growing demand for outcome assessment systems that can monitor interventions and programs on an ongoing basis across diagnostic groups and across the continuum of care settings. A well-accepted approach for addressing this need is the development of a clinical monitoring system designed for outcomes management. As highlighted in the long-range research plan of the National Institute on Disability and Rehabilitation Research, such clinical monitoring systems can provide important information on the outcomes of services to direct ongoing process and outcome improvements.

The Boston University Activity Measure for Post Acute Care (AM-PAC)<sup>™</sup> is an activity limitations instrument developed using the World Health Organization's International Classification of Functioning, Disability and Health (ICF). According to the ICF, an activity limitation is defined as "difficulty in the execution of a task or action by an individual." The AM-PAC<sup>™</sup> was developed as a functional outcomes system that can be used across post acute care settings and consists of a comprehensive list of 288 functional activities (i.e., the item bank). It measures functional outcome by using contemporary measurement techniques, such as Item Response Theory (IRT), to overcome the limitations of traditional functional outcome measures. Unlike these traditional functional outcome measures which are disease, condition, or setting-specific, the AM-PAC was designed to be used across patient diagnoses, conditions and settings where post acute care is being provided; therefore, the AM-PAC is the ideal measure for developing benchmarks and for examining functional outcomes over an episode of post acute care, as patients move across care settings.

## Primary Clinical Component

Post-acute care; applied cognition

## Denominator Description

Patients in the post-acute care setting who were assessed at baseline and at some follow-up point in time using the "Applied Cognition" domain of the Activity Measure for Post-acute Care (AM-PAC)

## Numerator Description

Mean change score in applied cognition of patients in a post-acute care setting as assessed using the "Applied Cognition" domain of the Activity Measure for Post-acute Care (AM-PAC)

## Evidence Supporting the Measure

### Evidence Supporting the Criterion of Quality

Focus groups

One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

## Evidence Supporting Need for the Measure

### Need for the Measure

Unspecified

## State of Use of the Measure

### State of Use

Current routine use

### Current Use

Internal quality improvement

## Application of Measure in its Current Use

### Care Setting

Ambulatory Care

Home Care

Hospitals

Long-term Care Facilities

Physician Group Practices/Clinics

Rehabilitation Centers

Residential Care Facilities

### Professionals Responsible for Health Care

Advanced Practice Nurses

Nurses

Occupational Therapists

Physical Therapists

Physician Assistants

### Lowest Level of Health Care Delivery Addressed

Group Clinical Practices

### Target Population Age

Adults

## Target Population Gender

Either male or female

## Stratification by Vulnerable Populations

Unspecified

# Characteristics of the Primary Clinical Component

## Incidence/Prevalence

Unspecified

## Association with Vulnerable Populations

Unspecified

## Burden of Illness

Unspecified

## Utilization

Unspecified

## Costs

Unspecified

# Institute of Medicine (IOM) Healthcare Quality Report Categories

## IOM Care Need

Getting Better

## IOM Domain

Effectiveness

# Data Collection for the Measure

## Case Finding

Users of care only

## Description of Case Finding

Patients in the post-acute care setting who were assessed at baseline and at some follow-up point in time using the "Applied Cognition" domain of the Activity Measure for Post-acute Care (AM-PAC)

## Denominator Sampling Frame

Patients associated with provider

## Denominator Inclusions/Exclusions

### Inclusions

Patients in the post-acute care setting who were assessed at baseline and at some follow-up point in time using the "Applied Cognition" domain of the Activity Measure for Post-acute Care (AM-PAC)

### Exclusions

Unspecified

## Relationship of Denominator to Numerator

All cases in the denominator are equally eligible to appear in the numerator

## Denominator (Index) Event

Encounter

Therapeutic Intervention

## Denominator Time Window

Time window brackets index event

## Numerator Inclusions/Exclusions

### Inclusions

Mean change score in applied cognition of patients in a post-acute care setting as assessed using the "Applied Cognition" domain of the Activity Measure for Post-acute Care (AM-PAC)

### Exclusions

Unspecified

## Measure Results Under Control of Health Care Professionals, Organizations and/or Policymakers

The measure results are somewhat or substantially under the control of the health care professionals, organizations and/or policymakers to whom the measure applies.

## Numerator Time Window

Episode of care

## Data Source

Patient survey

## Level of Determination of Quality

Not Individual Case

## Outcome Type

Functional Status

## Pre-existing Instrument Used

Unspecified

## Computation of the Measure

### Scoring

Non-weighted Score/Composite/Scale

### Interpretation of Score

Better quality is associated with a higher score

### Allowance for Patient Factors

Risk adjustment devised specifically for this measure/condition

### Description of Allowance for Patient Factors

Risk adjustment procedures are provided for the following variables: diagnosis, age, gender, surgery, admission basic mobility score, admission daily activity score, payment sources, number of days between accident date and admission date, severity. Refer to the original measure documentation for further information.

### Standard of Comparison

Internal time comparison

## Evaluation of Measure Properties

## Extent of Measure Testing

Initially, Activity Measure for Post-acute Care (AM-PAC) test items were administered to a large sample of patients from different care settings with different diagnoses. Factor analytic work identified three distinct, interpretable factors that accounted for 72% of the variance: Applied Cognition (44%), Daily Activities (19%) and Basic Mobility (9%). These factors were verified by a confirmatory factor analysis and defined as the three AM-PAC domains. Using Item Response Theory (IRT), items in each domain were scaled along a continuum of item difficulty. Items that were redundant or did not fit the model were eliminated. The remaining items formed the AM-PAC item banks, which included a wide range of items calibrated along a continuum of difficulty.

Adequate levels of reliability of individual items and validity of the AM-PAC have been established and have been reported. Refer to the articles referenced in the "Evidence for Reliability/Validity Testing" field for further information.

## Evidence for Reliability/Validity Testing

Andres PL, Haley SM, Ni PS. Is patient-reported function reliable for monitoring postacute outcomes. *Am J Phys Med Rehabil*. 2003 Aug;82(8):614-21. [PubMed](#)

Haley SM, Andres PL, Coster WJ, Kosinski M, Ni P, Jette AM. Short-form activity measure for post-acute care. *Arch Phys Med Rehabil*. 2004 Apr;85(4):649-60. [PubMed](#)

Haley SM, Coster WJ, Andres PL, Ludlow LH, Ni P, Bond TL, Sinclair SJ, Jette AM. Activity outcome measurement for postacute care. *Med Care*. 2004 Jan;42(1 Suppl):I49-61. [PubMed](#)

Jette AM, Haley SM, Tao W, Ni P, Moed R, Meyers D, Zurek M. Prospective evaluation of the AM-PAC-CAT in outpatient rehabilitation settings. *Phys Ther*. 2007 Apr;87(4):385-98. [PubMed](#)

## Identifying Information

### Original Title

Applied Cognition: Boston University Activity Measure for Post-acute Care (AM-PAC).

### Measure Collection Name

Boston University Activity Measure for Post-acute Care (AM-PAC)<sup>™</sup>

### Submitter

Boston University Health & Disability Research Institute - Academic Affiliated Research Institute

### Developer

Boston University Health & Disability Research Institute - Academic Affiliated Research Institute

## Funding Source(s)

Unspecified

## Composition of the Group that Developed the Measure

Unspecified

## Financial Disclosures/Other Potential Conflicts of Interest

Unspecified

## Adaptation

Measure was not adapted from another source.

## Release Date

2004 Jan

## Revision Date

2008 Feb

## Measure Status

This is the current release of the measure.

## Source(s)

Jette A, Haley SM, Coster WJ, Ni P. Instruction manual. Activity Measures for Post-acute Care (AM-PAC): basic mobility, daily activity, applied cognition functional domains. Boston (MA): Boston University, Health and Disability Research Institute; 2008 Feb 22. 45 p.

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## Measure Availability

The individual measure, "Applied Cognition: Boston University Activity Measure for Post-acute Care (AM-PAC)," is published in "Instruction Manual. Activity Measures for Post-acute Care (AM-PAC): Basic Mobility, Daily Activity, Applied Cognition Functional Domains," and "Instruction Manual. AM-PAC Computerized Adaptive Testing (AM-PAC CAT<sup>™</sup>) Personal Computer Version: Basic Mobility, Daily Activity and Applied Cognition Functional Domains."

For more information on obtaining this instrument, contact CREcare, LLC at: 50 Scenic Drive J-1, Gilford, NH, 03249; E-mail: [richmoed@crecare.com](mailto:richmoed@crecare.com) Web site: [www.crecare.com](http://www.crecare.com) .



## NQMC Status

This NQMC summary was completed by ECRI Institute on March 31, 2009. The information was verified by the measure developer on June 22, 2009.

## Copyright Statement

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For more information on obtaining this instrument, contact CREcare, LLC at: 50 Scenic Drive J-1, Gilford, NH, 03249; E-mail: [richmoed@crecare.com](mailto:richmoed@crecare.com) Web site: [www.crecare.com](http://www.crecare.com) .

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